

been already stated, the genital organs, and here also the comparison with *Peripatus* may be instituted. We find a similar agreement to that which existed in the other regions compared, and we may, with a considerable degree of probability, again homologize corresponding parts. The genital organs of *Palæmonetes* must then be regarded as the representatives, in this region, of the cœlom.

If the homologies here suggested are valid, the body-cavity relations of the Crustaceans under consideration may be stated briefly thus:—both enterocœle (true cœlom) and pseudocœle are present, the enterocœle consisting of the dorsal sac, the green gland, and shell-gland, or the end sacs of these organs, together with the genital organs and their ducts, whilst the pericardial septum may be regarded as equivalent to portions of the walls of another part of the same structure.

The pseudocœle consists of the heart and arteries, the pericardial cavity, the central cavity of the thorax, with the lateral cavities and the cavities of the limbs, and the various sinuses of the abdomen. The pseudocœle is filled with blood, and hence can be termed a hæmocœle.

I hope shortly to publish a more detailed account, with figures, of the relations described in this communication.

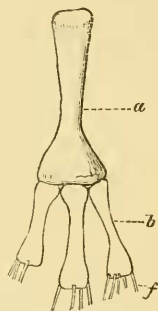
XLI.—*Note on a Case of Subdivision of the Median Fin in a Dipnoan Fish.* By A. SMITH WOODWARD, F.L.S.

PALÆONTOLOGY has demonstrated that in the Crossopterygian Teleostomatous fishes the process of subdivision of the median fin is usually different from that observed in the more specialized Actinopterygians. Whereas in the latter case portions of the fin-membrane disappear and the endoskeletal supports afterwards become atrophied, in the former case it is the almost universal rule that the supports of the dorsal and anal region become concentrated in clusters, and thus induce subdivision of the primitively continuous fin. The proximal fin-supports (axonosts) in each of these clusters ordinarily fuse into a single club-shaped element, and the distal supports (baseosts) are often more or less reduced in number by the same process*.

* Smith Woodward, 'Catalogue of Fossil Fishes in the British Museum,' part ii. (1891); and "The Evolution of Fins," *Natural Science*, vol. i. pp. 28-35 (1892).

Such being the arrangement in the *Crossopterygii*, it is of much interest to be able to institute comparisons with the Dipnoan fishes, which exhibit so many features of resemblance to the order just mentioned. Two Devonian genera, *Phaneropleuron* and *Dipterus*, are known to possess a discontinuous median fin; and quite lately specimens of the first of these genera have been found displaying all the fin-supports in undisturbed position. The fossils in question are referable to *Phaneropleuron curtum*, were obtained from the Upper Devonian of Canada, and have been acquired by the British Museum.

It now appears that, at least in the case of the Dipnoan anal fin, the process of separation from the caudal is precisely similar to that observed in the *Crossopterygii*. As shown by the accompanying illustration the axonosts (*a*) are fused into a single club-shaped element, and there are three hour-glass-shaped baseosts (*b*) of nearly equal size. Round the distal ends of these cartilages the clusters of dermal fin-rays (*f*) overlap in the usual manner. The same arrangement is also indicated in the figures of *Phaneropleuron curtum* already published by Whiteaves*; but, owing to the considerable displacement of the fin-supports in all the specimens at the disposal of that author, the peculiarity now described does not appear to have been observed.



Skeleton of Anal Fin of *Phaneropleuron curtum*, from the Upper Devonian, Scaumenac Bay, P. Q., Canada. *a*, axonost; *b*, baseosts; *f*, bases of fin-rays. [Brit. Mus. no. P. 6785.]

When specimens of *Dipterus* showing the fin-supports have been discovered the same phenomenon will doubtless be met with also in that genus; but as yet there is unfortunately no evidence on the subject.

* J. F. Whiteaves, "Illustrations of the Fossil Fishes of the Devonian Rocks of Canada.—Part I.," Trans. Roy. Soc. Canada, vol. iv. sect. iv. p. 108, pl. x. fig. 2.